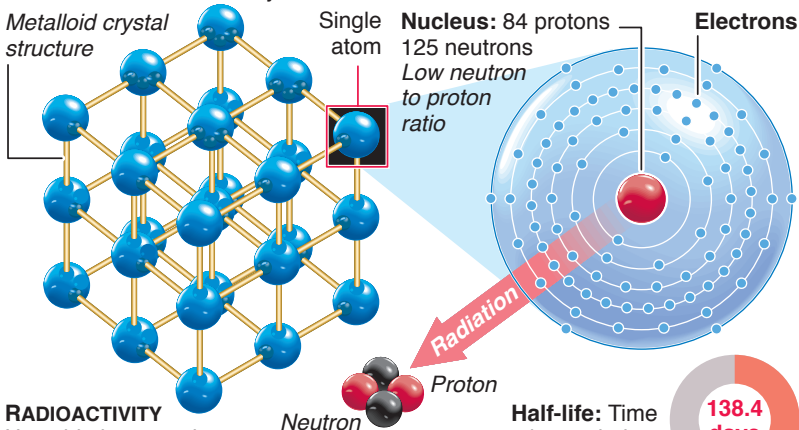


What is polonium-210?

Polonium-210 is a radioactive material that emits highly hazardous alpha particles. First discovered by Marie Curie in 1898, it occurs naturally in the environment but an amount large enough to kill would have to be produced in a reactor

POLONIUM-210: Created by neutron bombardment of **bismuth** atoms in reactor



RADIOACTIVITY

Unstable isotope ejects high-energy subatomic particles – 5,000 times more than radium. All elements with over 82 protons are radioactive

Polonium-210 emits only **alpha particles**. These are unable to pass through paper or skin but, if ingested, can penetrate several layers of cells of soft internal tissues, causing massive cell damage

Beta particles Will pass through 1-2cm of human tissue

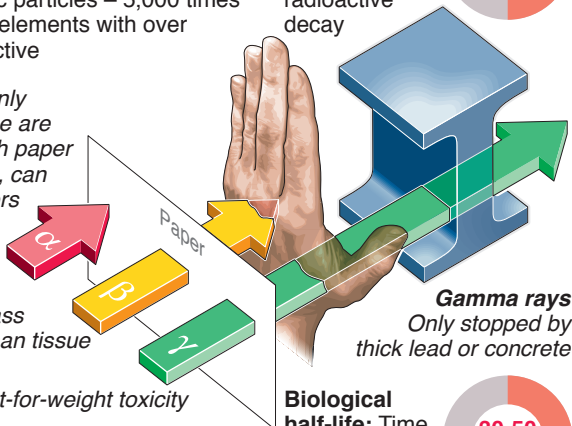
LETHAL DOSE: Weight-for-weight toxicity

Hydrogen cyanide (fatal at 300 parts/million)

Polonium-210 250 billion times more toxic

Half-life: Time taken to halve radioactive decay

138.4 days



Gamma rays
Only stopped by thick lead or concrete

Biological half-life: Time for half amount to be cleared from human body

30-50 days